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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,147	07/08/2003	David W. Abraham	YOR920010260US2	8233

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EXAMINER	
LE, THONG QUOC	

ART UNIT	PAPER NUMBER
2827	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/615,147	ABRAHAM ET AL.	
	Examiner	Art Unit	
	/Thong Q. Le/	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-24,26-33,35-49 and 51-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21,23,29,30,39,41,44-46,48,49 and 51-60* is/are rejected.

7)☒ Claim(s) *24,26-28,31-33,35-38,40,42-43,47,58* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Amendment filed on 02/14/2008 has been entered.

2. Claims 21-24,26-33,35-49,51-60 are presented for examination.

Response to Arguments

3. Applicant's arguments with respect to claims 21-24,26-33,35-49,51-60 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claim 59 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 47. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 59 is repeated from claim 47.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 41,44-46, 48-49, 51-57, 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Klersy et al. (U.S. Patent No. 5,933,365).

Regarding claims 41 48, Klersy et al. disclose an information storage device (Figure 1A-B) comprising:

an array of magnetic memory elements (Figure 1A-B, Figure 3, 30, ABSTRACT, Column 3, lines 31-35); and

a plurality of heating elements (Figure 1, 34,38, heating layers) for said array of magnetic memory elements (Figure 3, 30, Column 5, lines 19-21), said heating elements are included with said magnetic memory elements extending across the array (Figure 3, 30, Column 3, lines 60-65, Column 4, lines 47-65, Column 5, lines 22-35, Column 16, lines 45-47).

Regarding claims 46, 49, Klersy et al. disclose wherein the heat elements are conductors (Figure 1, 38, 34, Figure 3, 12, Column 11, lines 39-42, Column 12, lines 13-24, lines 52-55).

Regarding claim 51, Kersy et al. disclose wherein each heating element includes conductors (Figure 3, 12, Column 10, lines 40-45, Column 16, lines 45-46) providing the heating elements.

Regarding claim 52, Kersy et al. disclose wherein the heating lines extend diagonally across the array (Figure 4, Column 16, lines 45-67).

Regarding claims 44, 53, Kersy et al. disclose wherein the heating elements raise the temperature of selected memory elements by about 5 C^{O} to 10 C^{O} above a compensation temperature (Column 11, lines 50-56, Column 12, lines 15-24, Column 16, lines 61-67, a compensation temperature does not claim, can be assume being 0^{o} C, Column 18, lines 20-35).

Regarding claim 54, Kersy et al. disclose wherein the heating elements raise the temperature of selected memory elements (Column 1, lines 7-10, Column 2, lines 10-35).

Regarding claim 55, Kersy et al. disclose comprising first means for generating magnetic fields for switching selected memory elements (Column 1, lines 65-67, Column 2, lines 1-3, electrical switching speed, Column 3, lines 44-50, switching energy, Column 6, lines 20-30); and second means for causing the heating elements to apply heat to the selected memory elements while the magnetic fields are being applied (Column 11, lines (Column 11, lines 43-45, used in programming, lines 57-67, Column 12, lines 1-24).

Regarding claim 56, Kersy et al. disclose further comprising first means for generating magnetic fields for switching selected memory elements; and second means for causing the heating elements to apply heat to the selected memory elements before the magnetic fields are applied (Column 11, lines 57-67, Column 2, lines 13-24).

Regarding claim 57, Kersy et al. disclose An information storage device comprising: an array of magnetic memory elements (Figure 3); and means (Column 11, lines 42-67, Column 12, lines 1-24) for performing thermally-assisted switching of selected memory elements in the array said means comprises heating elements included in the devices extending across the array.

Regarding claim 60, Kersy et al. disclose wherein the heating elements are spaced apart from the memory elements (Column 4, lines 36-37, pair of spacedly, Column 10, lines 35-42) from the junction.

Figure 1A-B, Kersy et al. disclose memory element 36 and heating elements are 34 and 38 as present claims disclosed.

8. Claims 41, 46-47-52, 57-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu Chang (U.S. Patent No. 3,573,760).

Regarding claims 41, 46-47, Hsu Chang discloses a method of writing to a magnetic memory element of an array of magnetic memory elements (column 1, lines 5-14) , the method of comprising: heating the memory element wherein the memory element is heated by passing a current through a conductor (Column 8, line 33, copper are heated to provide layers) ; and applying at least one magnetic field to the memory element (Column 6, lines 50-53, magnetic field perpendicular to easy axis, Figure 5B, Column 3, lines 29-35), and wherein a junction is heated by passing said current through a conductor (Column 8, lines 33, lines 45-50), and wherein first and second orthogonal fields are applied to the memory element (Column 8, lines 48-50).

Regarding claims 48--52, Hsu Change discloses an information storage device (Figure 1, ABSTRACT) comprising: an array of magnetic memory elements (Figure 1, 2, Figure 7, ABSTRACT); and a plurality of heating elements (Column 8, line 33, copper are heated to provide layers) for said array of magnetic memory elements, said heating elements are included with said magnetic memory elements extending across the array, and wherein the heating elements are conductors (Column 8, lines 48-50, copper conductors).

Regarding claim 57, Hsu Chang discloses an information storage device (Figure 7) comprising: an array of magnetic memory elements (Figures 1-4) ; and means for performing thermally-assisted switching of selected memory elements in the array said means comprises heating elements (Column 1, lines 70-75, heating means is copper conductors) included in the devices extending across the array.

Regarding claim 58, Hsu Chang discloses wherein the junction is heated by passing a current through a conductor that is a spaced apart from the junction (Figure 1, 5).

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 21, 23,, 29 -30, 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. (U.S. Patent No. 6,029,895).

Regarding claim 21, Ito et al. disclose a method for writing to a memory storage device (Column 23, lines 14-34)comprising:

a) providing a storage cell comprising a changeable magnetic region, said changeable magnetic region comprising a material having a magnetization state that is responsive to a change in temperature thereof; and b) heating an element of said storage cell for selectively changing the temperature of said changeable magnetic region of said storage cell; c) said heating said element is provided by passing an electric current therethrough (Column 23, lines 14-35).

Regarding claim 23, Ito et al. disclose wherein said changeable magnetic region is a reversible magnetic region having a magnetization state which can be reversed by applying thereto a selected magnetic field, said reversible magnetic region comprising a material having a magnetization state that is responsive to a change in the temperature thereof (Column 23, lines 30-35).

Allowable Subject Matter

10. Claims 24, 26-28,31-33,35-38,40,42-43,47-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

These claims include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. The prior art does not teach the claimed invention having as these claims disclosed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Thong Q. Le/ whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarabian Amir can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thong Q. Le/
Primary Examiner
Art Unit 2827